

CONGESTION CONTROL IN A WIRELESS DATA NETWORK

ABSTRACT

Techniques for congestion control are disclosed. In one embodiment, a base station allocates a shared resource using a combination of zero or more individual grants and zero or more common grants, and generates a busy signal in response to loading conditions that exceed a pre-determined level. In another embodiment, a subset of transmitting mobile stations reduce their transmission rate in response to a busy signal. The subset may include autonomous transmission, commonly granted transmission, individually granted transmission, or any combination thereof. In various embodiments, rate adjustment may be probabilistic or deterministic. In one embodiment, a rate table is deployed, and a mobile station decreases or increases the transmission rate from one rate in the table to a lower or higher rate in the table, respectively, in response to the busy signal. Various other aspects are also presented. These aspects have the benefit of providing efficient congestion control, avoiding excessive interference and increasing capacity.